

PATENT CLAIMS

1. A piezo-electric drive, consisting of a plurality of packets of clamping piezos (3) arranged side-by-side in the form of stacks of piezo elements, which are arranged in the direction of their stack height between a reference part (1) and a drive part (2) in a pretensioned state and which each are provided with a stepping piezo packet (4) in the form of stacks of piezo elements, whose stacking direction extends about normal to the stacking direction of the clamping piezo packets (3) and is arranged so as to be oriented in the direction of the relative movement between the reference part (1) and the drive part (2), and wherein all the stacks of clamping piezos (3) are connected with one end to one of the elements reference part and drive part and with their opposite free end, engage the respective other element reference part and drive part, and wherein the stack of stepping piezos (4) each is connected with one end to the same of the elements references part and drive part to which also the one ends of the stacks of clamping piezos (3) are connected, and, with their other end, to the free end of one of the stacks of the clamping piezos,

characterized in that the stacks of clamping piezos are supported each with one end by a common "rigid" component and with their other end are biased in a pre-compressed state by the respective element reference part or drive part into engagement with the bridging plate (5) which is "semi-rigid", wherein the "semi-rigid" design of the bridging plate (5) is such that the bridge plate (5) adapts at least in the length tolerance- and expansion length range of the individual clamp-

ing piezo stacks in a static state to stack height differences of the individual clamping stack height differences of the individual clamping piezo stacks in a bending-elastic manner, but in a dynamic state at the given an operating frequency is essentially rigid and during the time window, in which in each case one group of clamping piezo stacks is electrically deactivated and not expanded and the other group of clamping piezo stacks is electrically activated and expanded, yields under the pretension pressure by not more than a fraction of the piezo expansion length.

2. A piezo-electric drive according to claim 1, wherein the "semi-rigid" bridging plate (5) is assigned to the reference part (1) and engages this part under the pre-compression pressure in a resilient manner and the free ends of the clamping piezo stacks (3) engage the drive part (2) which is designed as the "rigid" component.

3. The use of a piezo-electric drive according to one of claims 1 or 2 as a drive for heavy loads, for example, as individual wheel drive of tanks.